REMARKS:

In the outstanding Office Action, the Examiner rejected claims 1-49. No new matter is presented. The rejections are traversed below.

Thus, claims 1-49 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 103(a):

Claims 1-49 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,793,917 (Yoshimura) in view of U.S. Patent No. 5,629,795 (Suzuki) and U.S. Patent No. 5,887,105 (Bhagavatula).

Yoshimura is directed to compensating a dispersion occurring in a submarine optical fiber transmission system for repairing an optical fiber cable and dispersion compensating cables. Col. 2, lines 1-10 of Yoshimura discusses inserting dispersion compensating fiber cables at predetermined intervals (500 to 1000 km) of an optical fiber. The dispersion compensating fiber cables (106a-106m in FIG. 17) include a single-mode fiber having a dispersion coefficient whose sign is opposite to the sign of the dispersion coefficient of the optical fiber cable (103) at the transmitted wavelength and is uniform in the longitudinal direction of the dispersion compensating fiber cable (see, col. 2, lines 12-20).

According to Suzuki, dispersion media (4) are inserted in the optical fiber (2) for path length of 180 km (see, col. 6, lines 36-50 and FIG. 4). The optical fiber (2) is about 9000km long and the average wavelength dispersion value at the signal wavelength is 0.2 ps/km/nm, and as such there are disposed 300 optical amplifying repeaters 3 at intervals of around 30 km to compensate for losses of the optical fiber (2) (see, column 6, line 16-22).

The Examiner asserts that Bhagavatula teaches, "inserting lengths of dispersion having dispersion of opposite signs to existing fiber to make a repair" in column 4, lines 10-60. However, Bhagavatula uses a pair of fibers with positive and negative dispersion and makes total dispersion nearly zero without making four wave mixing (see, col. 3, lines 27-34). This is similar to the problem discussed at col. 1, lines 49-52 of Bhagavatula, where "the random lengths and dispersions which might be needed for replacement cables." Therefore, making a repair at col. 6, lines 45-50 of Bhagavatula merely means that the shorter the sub-length (i.e., length of the pair cables), the easier the replacement or repair cables may be for the insertion without effecting the total dispersion. Thus, repair or replacement according to Bhagavatula is done by a pair of cables with positive and negative dispersion.

Independent claims 1, 11 and 20 recite a method of repairing a transmission line including "inserting a third fiber in the section", where "the third fiber has an absolute value of dispersion per unit of length smaller than an absolute value of dispersion per unit of length of the first and the second fibers." Claims 29, 46 and 47 recite somewhat similar features.

Independent claim 42 also recites, "a respective section of the plurality of sections... being formed of an optical fiber having an absolute value of dispersion per unit of length smaller than the absolute value of dispersion per unit of length of the first and the second fibers". Further, the respective section includes at least one of "a device for inserting light into the section", "a gain equalizer" and "a dispersion compensator".

Therefore, Bhagavatula, Yoshimura, and Suzuki, either alone or in combination, do not teach or suggest the features recited in independent claims 1, 11, 20, 29, 42, 46 and 47.

For at least the above-mentioned reasons, claims depending from independent claims are patentably distinguishable over Bhagavatula, Yoshimura, and Suzuki. The dependent claims are also independently patentable. For example, as recited in claim 43, "the optical fiber forming said respective section of the plurality of sections, which is not a section of said at least some sections, is non-zero dispersion shifted fiber (NZ-DSF)." The cited references do not teach or suggest these features of claim 43.

Therefore, withdrawal of the rejection is respectfully requested.

CONCLUSION:

In view of the above, it is respectfully submitted that the application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

If any further fees are required in connection with the filing of this response, please charge such fees to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: October 19, 2005

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CERTIFICATE UNDER 37 CFR 1.8(a)
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
on October 19, 2005
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